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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HANEY, MATTHEW J

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/001,736

Applicant(s)

VLEESCHOUWER, CHRISTOPHE
DE

Examiner

Matthew Haney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-9, 11-26 and 28-36 is/are rejected.
- 7) ☒ Claim(s) 10 and 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figure 8a and 8b the drawings do not contain labels of the parts of the invention. The Reference Numbers should be accompanied by labels naming the parts that are referenced. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and

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exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: The specification is unclear as to the meaning of the word "quantity" as mentioned in claim 1 and also the "labeling of blocks" as mentioned in claim 7.

Appropriate correction is required.

Claim Objections

3. Claim 19 is objected to because of the following informalities: "performing a second sub-encoding on the aid first sub-encoded" should be changed to "performing a second sub-encoding on the said first sub-encoded". Appropriate correction is required.

Allowable Subject Matter

4. Claims 10 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 6-8, 11-12, 16, 19-22, 24-26, 28-31, 33, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US 5,777,680).

As for claims 1, 2, and 21 Kim teaches of dividing the part of the current frame into blocks (Column 6, Lines 43-45; performing a first sub-encoding on a first block or set of blocks (Note: first sub-encoding involves the DPCM, MC, and controller as seen in Figure 1, Column 6, Lines 40-49); performing a second sub-encoding on the first sub-encoded block or at least one block of the first set of blocks, the second sub-encoding adapting at least one encoding parameter based upon a quantity of the first sub-encoded part of the current frame, the quantity being determined by prediction at least in part from of the frames of the sequence only those frames that are a reference frame (Note: second sub-encoding process involves the DCT and Q blocks as seen in Figure 1, Column 6, Lines 49-64); and performing the first sub-encoding and the second sub-encoding on another block or set of blocks of the part of the current frame (Note: the process is continuous).

As for claims 3, 8, and 22, Kim teaches of computing of the quantity identifies the time elapsed between the current frame and the reference frame or frames (Note: the quantization parameter calculated from parameters obtained from the first encoding step is directly reliant on the picture rate (i.e. frame rate) and therefore this would give the time between frames, Column 4, Lines 51-60).

As for claims 4, 26, and 31, Kim teaches of the encoded frames are transmitted over a transmission channel and wherein the adaptive encoding method compensates for channel bandwidth limitations and adapts the second sub-encoding parameters

based at least in part upon the quantity (Note: the buffer controls the transmission of the data to the decoder as is well known in the art, the fullness of the buffer is fed to the control which takes it into account when calculating the quantization parameter, Column 7, Lines 24-42).

As for claims 6 and 24, Kim teaches of the second sub-encoding is selected from the group comprising: wavelet encoding, quadtree or binary tree coding, DCT coding and matching pursuits coding (Note: DCT coding is used, Column 6, Lines 40-64 and Figure 1).

As for claims 7, 11-12, 16, 19-20, 25, 28-30, 33, and 36, most of the limitations of the claims are contained in the above rejection of claim 1. Kim teaches of dividing the reference frame into blocks and labeling the blocks of the reference frame in accordance with the performance of a first sub-encoding that is applied to the reference frame (Note: after the reference frame goes through the MC the frame is labeled by the control in DPCM block, Column 7, Lines 1-21); computing a quantity based on the labeling of the blocks and from the frames of the sequence only those frames that are a reference frame (Column 4, Lines 30-67 and Column 5, Lines 1-38).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13-15, 17-18, 32, and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,777,680) in view of Sun (US 5,969,764).

As for claims 15, 18, 32, and 35, most of the limitations of the claims are contained in the above rejection of claim 7. Kim does not explicitly teach of deciding based on the computed quantity to perform or skip encoding the current frame, however, Sun does (Note: as disclosed in Sun, it is well known in the art that skipping a frame or increasing quantization levels are equivalent, Column 8, Lines 51-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the option of using the computed quantity or skipping the current frame. By skipping the current frame the coder can allow the transmitted stream to "catch up" to the coder without using any bits or allowing the coarseness to become to larger.

As for claims 13, 17, and 34, most of the limitations of the claims are contained in the above rejection of claim 15. Kim does not explicitly teach of the decision step deciding whether the two step encoding method is to be applied to the current frame or not, however, Sun does (Note: the deciding step being whether or not to skip the frame, Column 8, Lines 51-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the option of using the computed quantity or skipping the current frame. By skipping the current frame the coder can allow the transmitted stream to "catch up" to the coder without using any bits or allowing the coarseness to become to larger.

As for claim 14, most of the limitations of the claims are contained in the above rejection of claim 13. Kim teaches of the encoded frames are transmitted over a

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transmission channel and wherein the adaptive encoding method compensates for channel bandwidth limitations and adapts the second sub-encoding parameters based at least in part upon the quantity (Note: the buffer controls the transmission of the data to the decoder as is well known in the art, the fullness of the buffer is fed to the control which takes it into account when calculating the quantization parameter, Column 7, Lines 24-42).

Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,777,680) in view of Lee (US 6,023,296).

As for claims 5 and 23, most of the limitations of the claim are contained in the above rejection of claims 1 and 20. Kim does not explicitly teach of performing transformation parameter estimation of a block with respect to the reference frame; thereafter performing transformation compensation on the block; and thereafter determining the error block, however, Lee does (Note: the motion estimation is put before the motion compensation in order to improve efficiency of the motion compensator and the subtractor will give the error signal, Column 3, Lines 39-67 and Column 4, Lines 1-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the motion estimator in order to improve the efficiency of the motion compensator.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,777,680) in view of Krause (US 5,093,720).

As for claim 9, most of the limitations of the claim are contained in the above rejection of claim 7. Although Kim does not explicitly teach of comparing the motion vectors to determine the labeling, it is considered well known in the art to do so (See Krause Column 4, Lines 9-22). It would have been obvious to one of ordinary skill in the art at the time of the invention to compare the motion vectors because the motion vectors would already be readily available from the motion estimation processes and therefore would be computationally friendly. Official Notice

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Haney whose telephone number is 703-305-4915. The examiner can normally be reached on M-Th (5:30-3:00), Every Other Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Haney
Examiner
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